

Executive summary

Introduction

The current CropWatch bulletin is based mainly on remote sensing tools and methods for both climatic and crop condition data. It focuses on crops that were growing or have been harvested between April and July 2018. The bulletin covers prevailing weather conditions, including extreme factors, at different spatial scales, starting with global patterns in Chapter 1. Chapter 2 focuses on agro-climatic and agronomic conditions in major production zones in all continents. Chapter 3 covers the major agricultural countries that, together, make up at least 80% of production and exports (the “top 41”) while chapter 4 zooms into China. Detailed data and narratives about crops and environmental conditions are exposed in both chapters. Special attention is paid to the major producers of maize, rice, wheat, and soybean. The bulletin then presents a global production estimate for crops to be harvested throughout 2018 (Chapter 5.1), revised from our first estimate published in May 2018; 90% of the current estimates are based on remote sensing monitoring and 10% are based on statistical projections. Subsequent sections of Chapter 5 describe the global disasters that occurred from April to July 2018.

This bulletin is issued at a time when almost all winter crops in the northern hemisphere, including China, have been harvested and summer crops are in their late stages; in the southern hemisphere winter crops are growing and the planting of the summer season/monsoon season will start in a month or so.

Global agroclimatic conditions

This bulletin confirms several large-scale anomalies (departures from average) that seem to have become permanent features of global climate. They are compatible with, and probably consequences of climate change and include, among others, (1) dry conditions in North-American western coastal areas, (2) significant warming in northern high latitude areas and (3) relatively wet conditions in the semi-arid area extending from northern Africa (Sahel) across the Arabian Peninsula to Mongolia and beyond. The last area also recorded below average sunshine, an anomaly that affects most of south-east Asia as well. For the current reporting period, 69% of CropWatch monitoring areas had below average sunshine, resulting in a global sunshine drop of 2% over all agricultural areas, and as much as 5% in Central Asia and 7% in East Asia. Extremes were recorded in China in Huanghuaihai (-15%), the Loess region (-14%), Gansu-Xinjiang (9%) and Inner Mongolia (-8%) Those are very significant values considering that sunshine is the main driver of photosynthesis and crop production.

In South-East Asia, low sunshine was paralleled by cold “winter” temperature in Cambodia, Bangladesh and Thailand (around -1.4°C below average) where late stages of the second rice crop may have been affected. The coldest area among the major agricultural countries was Kazakhstan at 1.6°C; the planting of summer crops may have been delayed.

Next to the predominantly wet conditions mentioned above, drought prevailed at high latitudes in both hemispheres; most severely affecting Oceania and Mediterranean southern Africa Above-average temperature relatively consistently affected the western north-American coast and the Rocky Mountains and Western Europe to the Caspian Sea. Several major cereal producers on all continents suffered from abnormally dry conditions over the reporting period, especially Australia (RAIN 45% below average). In Europe, the reporting period (which corresponds with late dormancy and early vegetative growth of winter crops) was particularly dry in Germany (-33%), Poland and some Nordic and Baltic areas. Heat wave conditions affected much of Europe, with values in excess of 1.6°C above average in the United Kingdom, France, Germany and Poland. All those areas as well as Ukraine experienced above average sunshine.

In South Africa (-19%) the period corresponds to the final stages of late maize harvesting. In Canada (-18%) crop development is comparable to the European situation, but mostly less advanced. Finally, in Brazil (-16%), AMJJ corresponds to mid to late stages of summer crops and pre-planting of winter crops in the south, which are thus less likely to have been negatively affected. Rainfall was abundant for winter

crops in Turkey (+37%) and locally excessive in Argentina (+79%, with poor sunshine conditions) for the harvest of summer crops and the planting of winter wheat.

Production outlook

CropWatch estimates the global 2018 production of the major commodities at 1011 million tons of maize, down 0.1% from 2017, 727 million for rice (up 1.7%), 702 million tons of wheat (with a 2.4% decrease below 2017 output) and 320 million tons of soybeans, down 1.0%. In August 2017 we noted a trend of many small producers of soybean to move away from the crop on all continents. The tendency is present in 2018 as well.

Large increases in **maize** production are listed for Hungary (+9.0%) and Romania (+15.8%), while neighboring Ukraine, where rainfall was less favorable, is foreseen to undergo a significant drop of 8.8%. Similarly, production estimates for Russia are at -18.3%. Low values are estimated as well for Pakistan (-10.1%), Argentina (-6.2%) and Canada (-4.2%). Countries with significant increases also include Kenya (+16.1%) and Thailand (+9.2%). Among the major exporters, the USA underwent a minor increase (+0.3%) while Brazil is put at +1.7%.

Rice, as an irrigated crop, is relatively less weather dependent than maize, wheat or soybean. Among the main producers China and Indonesia recorded a production drop compared with the previous season: -2.1%, equivalent to 4.2 million tons, and -2.5%, equivalent to 1.7 million tons, respectively. India increased production by 10.1 million tons (+6.2%). Among the top importers, production fell 5.7%, which is likely to increase their inputs.

Australia's estimated production of **wheat** for 2018 is down by a very significant 12.8%, followed by Russia (-10.3%) and Ukraine (-7.1%). For the United States, CropWatch estimates winter wheat output to be down 3.9% below 2017, while production deficits of France and Germany, two major European producers reach 4.5% and 4.4%, respectively. A positive note is the good performance of Iran (+8.8%) after a series of unfavorable seasons. AI

With the exception of China, all the major **Soybean** producers undergo a drop compared to 2017, most notably Canada and India (both at 5.3%) but especially Argentina (7.6) due to unfavorable weather. China reversed the decade long negative production trend by adopting a new agricultural policy.

China

This bulletin covers the peak of the agricultural season for most of China. Winter crops production (of which wheat accounts for more than 91%) is revised at 126 million tons, the same level as 2016-2017. The production of summer crops (including maize, single rice, late rice, spring wheat, soybean, minor cereals, and tubers) is currently put by CropWatch at 417 million tons, a 0.4% drop from 2017 or 1748 thousand tons in production decrease. The total annual crop production is estimated at 577 million tons down 0.9% from 2017 (2460 thousand tons decrease).

CropWatch forecasted the overall maize production for China at 195.5 million tons with 1% above 2017, but rice production at 196.4 million tons, 2% below 2017 mainly due to the decrease of planted area. Wheat production is revised up to 121.5 million tons, equivalent to 2017's bumper production. The national soybean production reached 14.2 million tons (+3% from 2017), which has gone out of the haze of continuous production reduction and returned to the 2012 production level.